June 28, 1982



DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: John Sexton Landfill

LOCATION: 9800 Central Rd., Des Plaines, IL

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

NONE

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

SILURIAN AGE NIAGRAN DOLOMITE BEDROCK — REF. #1, 5

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

~1800 FT. — REF. #5

Depth from the ground surface to the lowest point of waste disposal/ storage:

30 FEET REF. #2

## Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

32 IN

Mean annual lake or seasonal evaporation (list months for seasonal):

30 IN

Net precipitation (subtract the above figures):

2 IN

## Permeability of Unsaturated Zone

Soil type in unsaturated zone:
THE UPPERMOST DEPOSIT IS ALLUVIAL SILTY CLAY, AN INTERMITTANT BED OF SAND. IS ON TOP OF THE TILL WHICH RANGES FROM NON-EXISTANT TO 5.5 FT. THICK. THE UNDERLYING SILTY CLAY TILLS ARE CLASSED AS HIGHLY IMPERMEABLE SOILS. THE UPPERMOST SILTY CLAY LAYERS APPEAR TO BE THE PARK RIDGE TILL. THE UNDERLYING SILTY CLAYS & SILTS APPEAR AS THE TINLEY & VALPARAISO TILLS. REF. #1
Permeability associated with soil type:

$10^{-8}$ cm/sec REF. #1

## Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

LIQUIDS AND SLUDGES REF. #3

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:
THE SITE IS A LANDFILL WITH A NATURAL, ESSENTIALLY NON PERMEABLE LINER (CLAY), THE SURFACE PRECLUDES PONDING, AND THERE IS NO LEACHATE COLLECTION SYSTEM. REF. #2

Method with highest score:
SAME.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:
PLATING WASTES
ORGANIC ACIDS
PAINT SLUDGES
PROCESS METAL WASTES
CAUSTIC WASTES
CADMIUM WASTES
Compound with highest score:
CADMIUM WASTES (PERSISTENCE - 3, TOXICITY - 3 (SAX))
MATRIX VALUE 18

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):
983,596 GALLONS ≈ 19,672 DRUMS REF. #3

Basis of estimating and/or computing waste quantity:
AS OF OCTOBER, 1982, TOTAL GALLONS OF SPECIAL WASTE WAS 9,835,955. AN ESTIMATED 5-10% WERE HAZARDOUS AS STATED IN THE REFERENCED REPORT. TAKING THE WORST CASE (10%) THIS COMES TO 983,596 GALLONS.
983,596 GALLONS ÷ 50 GALLONS/DRUM = 19,672 DRUMS. REF. #3

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:
DRINKING WATER (OTHER SOURCES AVAILABLE) REF #5

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:
DES PLAINES CITY WELLS, WEST OF THE DES PLAINES RIVER REF. #5

Distance to above well or building:
1.5 MILES REF. #5

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:
DES PLAINES CITY WELLS — 16,612 REF. #5, 6, 7

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):
NONE, AREA IS ALL RESIDENTIAL, FOREST PRESERVES, OR INDUSTRIAL/BUSINESS. REF. #6

Total population served by ground water within a 3-mile radius:
APPROXIMATELY 30% OF DES PLAINES IS SERVED BY GROUNDWATER WITHIN A 3 MILE RADIUS, REF. #5.
THE 1980 CENSUS REPORTS THE POPULATION OF DES PLAINES AS 55,374. REF. #7.
55,374 x .30 = 16,612

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

NONE

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

~~±3%~~ REF. #6

MAH >8%
8-29-83

Name/description of nearest downslope surface water:

DES PLAINES RIVER

Average slope of terrain between facility and above-cited surface water body in percent:

~~15%~~ REF. #6

MAH 3%-5%
8-29-83

Is the facility located either totally or partially in surface water?

NO REF. #6.

Is the facility completely surrounded by areas of higher elevation?

NO

1-Year 24-Hour Rainfall in Inches

2.0

Distance to Nearest Downslope Surface Water

80 FT. REF. #6

Physical State of Waste

LIQUIDS, SLUDGES REF. #3

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

RUNOFF FLOWS INTO MAN MADE DITCH SURROUNDING THE SITE WHICH FLOWS DIRECTLY INTO THE DES PLAINES RIVER. THIS CONSTITUTES AN UNSOUND DIVERSION SYSTEM. REF. #6

Method with highest score:

SAME.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated
SEE GROUNDWATER ROUTE.

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):
SEE GROUNDWATER ROUTE

Basis of estimating and/or computing waste quantity:

* * *

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:
RECREATION REF. #6

Is there tidal influence?

NO

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NONE

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

NONE 2 SACRES REF. #6

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

NONE

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

NO SURFACE WATER INTAKES WITHIN 3 MILES.
ALL SURFACE WATER SUPPLIED BY LAKE MICHIGAN
REF. #4 & 5

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

NONE REF. #4 & 5

Total population served:

0

Name/description of nearest of above water bodies:

Distance to above-cited intakes, measured in stream miles.

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

NONE

Date and location of detection of contaminants

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

Toxicity

Most toxic compound:

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

* * *

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi  0 to 1 mi  0 to 1/2 mi  0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

NONE

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

NONE

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NO

Project Location

The project site of about 160 acres is located on the north side of Central Road, East of the Des Plaines River. The project site is located in Section 31 Township 42 North Range 12 East (Northfield Township) of the 3rd Principal Meridian, in Cook County, Illinois.

Project Geology

The project site is located in the Des Plaines River Valley and the surficial soils consist of Valley train soils deposited by the river water during the post glacial period. These soils are sands, Henry Formation Mackinaw member, covered by later clay sediments, generally less than 10 feet thick. Underlying the site is a sequence of clay tills of glacial origin which extend to bedrock about 100 feet below grade. Tills of the Park Ridge, Tinley, Valparaiso, and pre-Valparaiso glaciers are expected to overly the bedrock, the Silurian age Niagran Dolomite. The Dolomite bedrock is a dense, thinly bedded, jointed rock, the aquifer source of potable water of the area. The site is in the Des Plaines fault area and some non-conformity of bedrock might occur, however.

Soil Conditions

The analysis of the subsoils was made by review of a report of subsurface soil conditions prepared by Testing Service Corporation in 1963 , and by an on site inspection of a disposal trench. The following is a generalized summary of the soil stratigraphy of the site:

| Soil Type | Av. Thickness (ft) | W. Depth (ft) | Geological Origin |
|---|---|---|---|
| "Topsoil" | 1 | 0.0-1.0 | Recent |
| Silty Clay | 7 | 1.0-8.0 | Alluvial |
| Sand | 2.5 | 8.0 to 10.5 | Valley train |
| Silty Clay | 16.5 | 10.5 to 27.0 | Glacial, Park Ridge |
| Silty Clay | 9 | 27.0 to 36.0 | Glacial, Tinley |
| Silty Clay | 30 | 36.0 to 66.0 | Glacial, Valparaiso |
| Silt, sand, gravel | 32 | 66.0 to 98.0 | Glacial, pre-Valparaiso |
| "Bedrock" | | 98.0 | Silurian Niagran Dolomite |

Soil Characteristics

The uppermost soil deposit, the alluvial silty clay is weathered and desiccated and highly impervious. There is an intermittant bed of sand as a "marker" on top of the till, and this sand ranges from non-existant to 5.5 feet thick at the boring locations. It appears as water bearing and is classed as permeable. The underlying silty clay tills are classed as highly impermeable soils and two samples removed from a disposal trench were tested for permeability (see also report of test sheet enclosed). Per-

Soil Characteristics (Continued)

meability of these silty clays was of the magnitude of 10-8 centimeters per second. The uppermost silty clay layers appears to be the Park Ridge till, and is the least precompressed of the till layers. It is generally plastic. The underlying silty clays, and silts each precompressed and hand in consistency, appear as the Tinley and Valparaiso tills. The bottom of the highly impermeable silty clay and silt tills appear to range from 44 to 71 feet below grade at the boring locations. Between the bottom of the silty clay tills and the bedrock surface is a sequence of moderately permeable to permeable sand, and sand gravel formations, considered water bearing or basal aquifers.

Site Hydrology

The surface water run-off appears to be towards the Des Plaines River. It is assumed that final grade plans will drain the surface water to the river or its tributaries.

Most borings reveal a thin water bearing sand stratum at shallow depth just above the clay tills. The direction of flow of this ground water is also expected to be similar to the surficial water, to the Des Plaines River.

The Basal aquifer appears to contain water, but the direction of flow is not definitely known. Because local drawdown by the existing water well on the site is likely to be taking place, it is probable that flow in this above bedrock aquifer is likely towards the existing well.

The bedrock ground water flow is likely toward the existing water well which is expected to be creating a local cone of depression. The general direction of ground water flow in the upper dolomite is eastward.

Conclusions and Recommendations

Suitability of Subsoils

The sequence of impermeable silty clay tills are expected to provide an impermeable barrier to flow of contaminents from the land fill to the underlying aquifers provided an adequate thickness of these impermeable tills is left in place below the base of the solid waste. The upper sand layer and also silt or sand lenses that might be exposed in excavating the trenches will require sealing. The previously recommended (TSC report) 4 feet minimum of impermeable silty clay is considered adequate to be left in place below the fill, or this same thickness should be placed and compacted

Conclusions and Recommendations (Continued)

Suitability of Subsoils (Continued)

to seal local silt or sand lenses that might be encountered.

Two samples of the "silty clay" tills were taken from an exposure for a trench in the southwest part of the site. These samples were tested for grain size analysis, permeability, and cation exchange capacity, and the results are included under a report of test elsewhere in this report. The following is a tabulation of the results of the tests.

| Geological Classification | Soil Classification | Coefficient of Permeability | Ion Exchange Capacity |
|---|---|---|---|
| Tinley | Clay | 2.3 & 10-8 | 7.7 mc/100 |
| Valparaiso | Clay | 4.7 & 10-8 | 7.2 mc/100 |

The results of these tests indicate the fills to be highly impermeable, with high ion exchange capacity, and therefore well suited for prevention of seepage of land fill leachates to underlying aquifers.

Monitoring Wells

The existing water well at the service facility is considered an adequate monitoring well for the bedrock and basal aquifers. Although no log of the well was available it is reported that this well is into the underlying bedrock.

A periodic monitoring program for this well is recommended, and it is known that such a program is underway for the existing service facility water well.

REF. # 2 - PHONE CONVERSATION BETWEEN MIKE GIFFORD [redacted] (ECOLOGY & ENVIRONMENT) AND GLENN STENNARD (IEPA, MAYWOOD) ON 6/2/83.

REF. #3 - IEPA SPECIAL WASTE DISPOSAL REPORT DATED 10/18/82 AND 10/22/82, COPY OF WHICH IS IN CUSTODY OF ECOLOGY & ENVIRONMENT.

REF. #4 - PHONE CONVERSATIONS BETWEEN LISA PERENCHIO (E&E) AND PUBLIC WORKS DEPARTMENTS OF PARK RIDGE, GLENVIEW, AND NILES ON 8/23/83.

REF. #5 PHONE CONVERSATION BETWEEN MIKE GIFFORD (E&E) AND MR. CARROL OF THE DES PLAINES WATER & SEWAGE WORKS.

REF. #6 SITE INSPECTION DONE BY JOHN ANGELO, DAN COZZA, AND LISA PERENCHIO (E&E) ON 4/7/83.

REF. #7 PHONE CONVERSATION BETWEEN LISA PERENCHIO (E&E) AND THE CITY CLERK OF DES PLAINES ON 8/26/83.

R5-8203-1

June 28, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME: JOHN SEXTON LANDFILL

LOCATION: 9800 CENTRAL RD., DES PLAINES, IL

RS-8303-1

IL-177-06

Facility name: JOHN SEXTON LANDFILL

Location: 9800 CENTRAL RD., DES PLAINES, IL

EPA Region: V

Person(s) In charge of the facility: JOSEPH SPEAR - DIRECTOR OF CORPORATE DEVELOPMENT

JOSEPH BENEDICT - DIRECTOR OF CHEMICAL PROCESSES

LARRY BOETTCHER - DIRECTOR, SOLID WASTE DIVISION

Name of Reviewer: LISA PERENCHIO Date: 8/23/83

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

SITE IS BASICALLY A MUNICIPAL LAND FILL WHICH ACCEPTED HAZARDOUS WASTES FROM 1963 - 1979 INCLUDING ACID WASTES, PAINT SLUDGES, METAL FINISHING SLUDGES, PROCESS METAL WASTES, CAUSTIC WASTES, SPENT SOLVENTS, & PLATING WASTES.

Scores: $S_M = 6.3$ ($S_{gw} = 6.5$ $S_{sw} = 8.7$ $S_a = 0$ )

$S_{FE} = 0$

$S_{DC} = 0$

**FIGURE 1**
**HRS COVER SHEET**

| Ground Water Route Work Sheet | | | | | |
|---|---|---|---|---|---|
| Rating Factor | Assigned Value (Circle One) | Multi-plier | Score | Max. Score | Ref. (Section) |
| [1] Observed Release | (0) 45 | 1 | 0 | 45 | 3.1 |
| If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2]. | | | | | |
| [2] Route Characteristics | | | | | 3.2 |
| Depth to Aquifer of Concern | (0) 1 2 3 | 2 | 0 | 6 | |
| Net Precipitation | 0 (1) 2 3 | 1 | 1 | 3 | |
| Permeability of the Unsaturated Zone | (0) 1 2 3 | 1 | 0 | 3 | |
| Physical State | 0 1 2 (3) | 1 | 3 | 3 | |
| Total Route Characteristics Score | | | 4 | 15 | |
| [3] Containment | 0 (1) 2 3 | 1 | 1 | 3 | 3.3 |
| [4] Waste Characteristics | | | | | 3.4 |
| Toxicity/Persistence | 0 3 6 9 12 15 (18) | 1 | 18 | 18 | |
| Hazardous Waste Quantity | 0 1 2 3 4 5 6 7 (8) | 1 | 8 | 8 | |
| Total Waste Characteristics Score | | | 26 | 26 | |
| [5] Targets | | | | | 3.5 |
| Ground Water Use | 0 1 (2) 3 | 3 | 6 | 9 | |
| Distance to Nearest Well/Population Served | 0 4 6 8 10 12 16 18 20 24 (30) 32 35 40 | 1 | 30 | 40 | |
| Total Targets Score | | | 36 | 49 | |
| [6] If line [1] is 45, multiply [1] x [4] x [5]. If line [1] is 0, multiply [2] x [3] x [4] x [5] | | | 3744 | 57,330 | |
| [7] Divide line [6] by 57,330 and multiply by 100 | | $S_{gw}$ = 6.5 | | | |

FIGURE 2
GROUND WATER ROUTE WORK SHEET

| Surface Water Route Work Sheet | | | | | |
|---|---|---|---|---|---|
| Rating Factor | Assigned Value (Circle One) | Multiplier | Score | Max. Score | Ref. (Section) |
| [1] Observed Release | (0) 45 | 1 | 0 | 45 | 4.1 |
| If observed release is given a value of 45, proceed to line [4]. If observed release is given a value of 0, proceed to line [2]. | | | | | |
| [2] Route Characteristics | | | | | 4.2 |
| Facility Slope and Intervening Terrain | 0 1 (2) 3 | 1 | 2 | 3 | |
| 1-yr. 24-hr. Rainfall | 0 (1) 2 3 | 1 | 1 | 3 | |
| Distance to Nearest Surface Water | 0 1 2 (3) | 2 | 6 | 6 | |
| Physical State | 0 1 2 (3) | 1 | 3 | 3 | |
| Total Route Characteristics Score | | | 12 | 15 | |
| [3] Containment | 0 1 2 (3) | 1 | 3 | 3 | 4.3 |
| [4] Waste Characteristics | | | | | 4.4 |
| Toxicity/Persistence | 0 3 6 9 12 15 (18) | 1 | 18 | 18 | |
| Hazardous Waste Quantity | 0 1 2 3 4 5 6 7 (8) | 1 | 8 | 8 | |
| Total Waste Characteristics Score | | | 26 | 26 | |
| [5] Targets | | | | | 4.5 |
| Surface Water Use | 0 1 (2) 3 | 3 | 6 | 9 | |
| Distance to a Sensitive Environment | (0) 1 2 3 | 2 | 0 | 6 | |
| Population Served/Distance to Water Intake Downstream | (0) 4 6 8 10 12 16 18 20 24 30 32 35 40 | 1 | 0 | 40 | |
| Total Targets Score | | | 6 | 55 | |
| [6] If line [1] is 45, multiply [1] x [4] x [5]. If line [1] is 0, multiply [2] x [3] x [4] x [5] | | | 5616 | 64,350 | |
| [7] Divide line [6] by 64,350 and multiply by 100 | | | $S_{SW}$ = 8.7 | | |

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

| Air Route Work Sheet | | | | | |
|---|---|---|---|---|---|
| Rating Factor | Assigned Value (Circle One) | Multi-plier | Score | Max. Score | Ref. (Section) |
| [1] Observed Release | (0) 45 | 1 | 0 | 45 | 5.1 |
| Date and Location: | | | | | |
| Sampling Protocol: | | | | | |
| If line [1] is 0, the $S_a$ = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2]. | | | | | |
| [2] Waste Characteristics | | | | | 5.2 |
| Reactivity and Incompatibility | 0 1 2 3 | 1 | | 3 | |
| Toxicity | 0 1 2 3 | 3 | | 9 | |
| Hazardous Waste Quantity | 0 1 2 3 4 5 6 7 8 | 1 | | 8 | |
| | Total Waste Characteristics Score | | | 20 | |
| [3] Targets | | | | | 5.3 |
| Population Within 4-Mile Radius | 0 9 12 15 18 21 24 27 30 | 1 | | 30 | |
| Distance to Sensitive Environment | 0 1 2 3 | 2 | | 6 | |
| Land Use | 0 1 2 3 | 1 | | 3 | |
| | Total Targets Score | | | 39 | |
| [4] Multiply [1] x [2] x [3] | | | | 35,100 | |
| [5] Divide line [4] by 35,100 and multiply by 100 | | | $S_a$ = 0 | | |

FIGURE 9
AIR ROUTE WORK SHEET

| | S | $S^2$ |
|---|---|---|
| Groundwater Route Score ($S_{gw}$) | 6.5 | 42.25 |
| Surface Water Route Score ($S_{sw}$) | 8.7 | 75.69 |
| Air Route Score ($S_a$) | 0 | 0 |
| $S_{gw}^2 + S_{sw}^2 + S_a^2$ | | 117.94 |
| $\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$ | | 10.86 |
| $\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$ | | 6.3 |

FIGURE 10
WORKSHEET FOR COMPUTING $S_M$

| Fire and Explosion Work Sheet | | | | | | |
|---|---|---|---|---|---|---|
| Rating Factor | Assigned Value (Circle One) | Multi-plier | Score | Max. Score | Ref. (Section) | |
| 1 Containment | 1 3 | 1 | | 3 | 7.1 | |
| 2 Waste Characteristics | | | | | 7.2 | |
| Direct Evidence | 0 3 | 1 | | 3 | | |
| Ignitability | 0 1 2 3 | 1 | | 3 | | |
| Reactivity | 0 1 2 3 | 1 | | 3 | | |
| Incompatibility | 0 1 2 3 | 1 | | 3 | | |
| Hazardous Waste Quantity | 0 1 2 3 4 5 6 7 8 | 1 | | 8 | | |
| Total Waste Characteristics Score | | | | 20 | | |
| 3 Targets | | | | | 7.3 | |
| Distance to Nearest Population | 0 1 2 3 4 5 | 1 | | 5 | | |
| Distance to Nearest Building | 0 1 2 3 | 1 | | 3 | | |
| Distance to Sensitive Environment | 0 1 2 3 | 1 | | 3 | | |
| Land Use | 0 1 2 3 | 1 | | 3 | | |
| Population Within 2-Mile Radius | 0 1 2 3 4 5 | 1 | | 5 | | |
| Buildings Within 2-Mile Radius | 0 1 2 3 4 5 | 1 | | 5 | | |
| Total Targets Score | | | | 24 | | |
| 4 Multiply 1 x 2 x 3 | | | | 1,440 | | |
| 5 Divide line 4 by 1,440 and multiply by 100 | | | $S_{FE}$ = | | | |

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

| Direct Contact Work Sheet | | | | | |
|---|---|---|---|---|---|
| Rating Factor | Assigned Value (Circle One) | Multi-plier | Score | Max. Score | Ref. (Section) |
| [1] Observed Incident | (0) 45 | 1 | 0 | 45 | 8.1 |
| If line [1] is 45, proceed to line [4]<br>If line [1] is 0, proceed to line [2] | | | | | |
| [2] Accessibility | 0 1 (2) 3 | 1 | 2 | 3 | 8.2 |
| [3] Containment | (0) 15 | 1 | 0 | 15 | 8.3 |
| [4] Waste Characteristics Toxicity | 0 1 2 (3) | 5 | 15 | 15 | 8.4 |
| [5] Targets | | | | | 8.5 |
| Population Within a 1-Mile Radius | 0 1 2 (3) 4 5 | 4 | 12 | 20 | |
| Distance to a Critical Habitat | (0) 1 2 3 | 4 | 0 | 12 | |
| Total Targets Score | | | 12 | 32 | |
| [6] If line [1] is 45, multiply [1] x [4] x [5]<br>If line [1] is 0, multiply [2] x [3] x [4] x [5] | | | 0 | 21,600 | |
| [7] Divide line [6] by 21,600 and multiply by 100 | | | $S_{DC}$ = 0 | | |

FIGURE 12
DIRECT CONTACT WORK SHEET